

CURE THAT PACE

By Lee Ziegler, revised 1998

Old timers will sometimes tell you that if a horse does not have a "little bit of pace" in him he will not be able to do a runningwalk. If you notice the number of Standardbred pacers that contributed to the breed, it is no wonder that the pace lurks in so many Tennessee Walking Horses. The "pace problem" is not unique to the Tennessee Walkers. Although they do not advertise the fact, all of the gaited breeds produce individuals that prefer to do a stepping pace from time to time, as well as others that seem to do nothing but a hard pace when pushed for speed. Some of these horses are so "hard wired" in the pace that they will not do any other gait, even when free in a pasture. However, most pacey horses are not "stuck" in the gait to that degree, and with training can be persuaded to do a more desirable gait.

Because no one wants to ride a pace (other than the Icelanders, and theirs is a special type of pace, done at speed) many methods have been developed to overcome the gait in saddle horses. Most Tennessee Walker trainers these days get rid of a pace with the help of their shoer (low angles in back, high ones in front, or vice versa, depending on who is doing the trim) their tack or shoe supplier (rattles, chains, weighted shoes, boots, "developers") or their back pasture (plowed ground, deep sand, mud, high grass, and hills). These ways of dealing with a pace treat the symptoms (the way the hooves hit the ground) not the "disease". To cure a pace, you need to know how and why a horse chooses that gait, and then eliminate the root cause.

HOW DOES A HORSE PACE?

The body position and muscle use of horses that pace are easy to see.

Movement: In the pace, a horse moves alternating lateral (same side) pairs of legs together. He does this by shifting his weight from side to side, away from each advancing pair of legs. In a true, fast, *hard pace*, he jumps from each set of lateral legs to the other, with a brief moment when all four legs are clear of the ground. At slower speeds, the jumping motion is gone and the lateral hooves do not touch down at the same moment. Usually the hind hoof sets down just before the front on the same side. This type of "*broken pace*" is just slightly more lateral than the "*stepped pace*" in which the hind hoof sets down noticeable before the front on the same side. For training purposes,

everything from a hard pace to a stepped pace is usually labeled a pace.

Position: Horses that pace always do so with "hollow" or slightly swayed backs. /this position comes about in two ways:

- The horse travels with a high head and stiff neck muscles which in turn lead to stiffened muscles along the back, on either side of the spine. This allows the horse's hindquarters to trail along behind him, with no lowering of the croup or shift in balance to the rear.
- The horse travels "strung out" with a low head and neck, slack neck and back muscles, and, again, little thrust from the hindquarters.

Muscle use: Pacing horses have a unique way of using the muscles in their backs, whether they are the high-headed or loose type. While trotting horses maintain some tension and elasticity in the muscles on both sides of the spine at all times as they move, pacers tighten first one side, then the other as they move along. This contributes to a visible "wagging" from side to side of their hindquarters and a swing in their necks. Pacers also move with slack belly muscles and little push from their hind legs. In addition, their necks are often "ewe" shaped, with overdeveloped muscles on the lower side from traveling with high heads, little muscle mass at the true crest, and overdeveloped muscles half way down the neck--a "false crest" in the middle.

WHY DOES A HORSE PACE?

No one knows to what extent a horse voluntarily chooses a gait. They probably rely on both instinct and direct conscious neural signals to get themselves around. Despite what some may believe, there is no single scientifically identified "pace gene" that determines whether a horse will use that gait, or any dilution of it by the "trot gene" that then produces the easy gaits. The gait's root cause is much more complex than a single gene. A horse paces because for some reason his body is in the physical position necessary to produce the gait. His back sags, his neck is "hollow", his hind legs are trailing, and he is using muscle groups that make him swing from side to side. There are several physical reasons for a horse to move this way.

- **Conformation:** A horse that has trouble rounding his back because of his basic bone structure is likely to pace. Pacers usually have long functional backs (more than 48% of body length, when the body is measured from the point of shoulder to the point of the buttocks, and the back is measured from the crest of the withers to the lumbo-sacral junction), short, thick, high set necks, short "goose-rumped" hips, and hind legs that are "camped out"

(center of hock lies well behind a plumb line dropped from the point of the buttock, with the hind cannon vertical) as well as very long from the stifle to the hock, with an open (over 110 degrees) angle at the stifle.

- **Condition:** A horse with weak, unconditioned muscles in his back and hindquarters will naturally sag under the weight of a rider. This puts him in an ideal position to pace. If you have ever wondered why a young horse will sometimes move out nicely in gait before he is ridden, but starts pacing as soon as you mount up, the answer lies in the lack of weight-carrying strength in his back.
- **Attitude:** Some horses pace because they are high-strung, high-headed, or tense from fear. This tension tightens their muscles and activates their flight reflex, causing them to travel with their heads high and a hollow or "dip" in their backs just before the point at which they attach to the wither. This in turn hollows their backs and causes their bellies to sag.
- **Pain:** Sore muscles are usually stiff and stiffness usually produces a pace. An unconditioned horse that has been ridden hard one day, allowed to stand in a small space overnight, then taken out for a ride the next will often pace the second day, even if he gaited well the first. He paces because he hurts. Pain can also be caused by injuries to the back, neck, rump, or joints of the hind legs. All will incline to the pace. In fact, a good clue to check a horse for injury of some sort is the sudden onset of a pace, when he has previously been working in gait.
- **Wiring:** Some horses pace because they have the gait ingrained in their nervous systems and muscles. They will do nothing but pace, ridden or free, at all speeds over all kinds of ground. They may have been born with this tendency or been inadvertently trained to do it by being ridden too young and allowed to pace consistently under saddle. They are very difficult to cure of the pace, but if they are not set in their ways, their neural synapses can sometimes be reeducated over time into a different gait pattern. However, the success rate of retraining a horse that never does anything but a pace free in a pasture is not high.

THE CURE

When trainers use shoeing techniques or action devices or rough ground to get rid of a pace, they are working on the flight pattern and timing of the horse's hooves. By delaying or speeding the lift off of a hoof, they are making the gait less lateral. Eventually the horse adjusts to his new, artificially produced gait, his muscles develop along the lines necessary to do the gait, and he quits pacing, often without the action devices. Of course, this training may wear off in time, particularly if he is turned out to pasture and

then ridden by someone who does not know how to keep him in gear.

Another, more long-lasting way to deal with the pace is to eliminate the body and muscle problems that make it possible. Although not much can be done about conformation, what the horse does with that conformation can make a big difference in the gait he uses. Since a horse travels with a swayed back, stiff, hollow neck, sagging belly and trailing hindquarters in the pace, if you simply train him to travel with a more rounded back, supple, flexible neck, tight stomach muscles and engaged hindquarters the pace will evaporate! Even horses with bony conformation predisposing them to the pace can be helped. You *can* cure a pace.

Physical therapy:

While they are not training solutions for the gait problem, equine massage and chiropractic are often useful in dealing with a horse that paces. Although physical manipulations will not instantly cure a horse of traveling with a hollow back, they can relieve cramped and blocked muscles and help him become more flexible under saddle. It is worth a try to see if a treatment or two from a competent massage therapist or equine chiropractor will help your pacey horse move better.

Conditioning:

If you get your horse in shape before you ask him to do a flat walk or running walk under a rider, he is much less likely to start pacing. Before you start to ride a young horse, condition him by work on the longe line or in a round pen, at a controlled flatwalk if you can, both on the flat and over poles spaced about 5 feet apart. Pony him from another horse to build up his muscle strength. Spend a couple of months getting your horse "legged up" and in condition before you start riding him in gait. Remember that the younger a horse is when you start to ride him, the more undeveloped his muscles will be and the more likely he will be to pace. Give him a chance to grow up before you put him to work.

When you do start to ride, remember the credo of competitive trail and endurance riders-Long Slow Distance. Ride at a walk and occasional flat walk for several months, over gradually increasing distance. Don't overdo and wear out your horse-build him up gradually. Increase the time you ride and the distance you cover in small increments. Dismount frequently to rest his back, and ask him to raise it by cueing him with a fingernail at the midline of his belly, a version of the "belly lift" that makes him raise his back muscles as he tightens his abdominals.

Ride at nothing faster than a flatwalk for several months. The old timers used to say that a horse should be flatwalked a minimum of three months before

he was ready for the runningwalk. They said they did it to develop rhythm, but it also worked to condition the horse.

Ground Flexibility Exercises:

A horse's head and neck assemblies are the most accessible part of his spinal column. To help a stiff, "hollow" horse begin to use his back and body in a more rounded way so that he can stop pacing, begin by teaching him from the ground to have a supple, flexible neck. Again, these exercises are often much more productive if the horse has had chiropractic, message therapy or acupressure treatment.

Bending: While a well-conditioned, supple horse should be able to touch his nose to the stirrup on both sides of his body, many horses that pace have very limited lateral flexibility in their necks. To improve lateral suppleness, they need some ground work in a halter. Standing at the horse's shoulder, grasp the halter noseband at the sidepiece, and gently bring his nose to the side, insisting that he keep his body still. Ask him to bend just a few inches away from a resting position, pet him, then repeat on the other side. Practice bending his neck just a bit farther each time you work with him, until he can touch his nose to his side, on both sides. This may take several lessons. The idea is not to force him to bend, but to gradually stretch the muscles in his neck so that he can do it easily. It is sometimes useful to use a carrot as a bribe, holding it in front of his nose and tempting him with it until he follows it around, bending his neck in the process. Naturally, give him the carrot when he bends as far as you want.

Reaching forward: Another useful exercise for conditioning a horse with a tight neck is the forward stretch. Again, this is best taught from the ground, with the horse in a halter. Standing in front of the horse, grasp the noseband of the halter in two hands, one at each sidepiece. Alternate light tugs toward your body and down, asking the horse to lower his neck and reach out with his nose. Practice over several sessions until he can easily lower his head to the ground in response to the alternate tugs. Again, it helps to use a carrot to bribe some horses to lower their heads. The idea is not to force his head forward and down, but to ask him to stretch the muscles in his neck and back so that it is not difficult for him to relax and lower his head. It is important to teach this exercise on the ground so that the horse will have a head start on the same exercise when you try it from the saddle.

Ridden flexibility exercises:

To overcome the hollow position that produces the pace, a horse needs flexible, well-conditioned muscles in his neck and back. After he has learned to stretch and bend his neck from the ground, he can be taught to use his entire body in a more effective position while developing the condition of his

neck, back and hindquarters.

The "neck stretching" exercise: [this is a slight variation on an old Dressage exercise called "showing the horse the way to the ground" or "deep work". It is the absolute key to overcoming the type of body use that leads to the pace and replacing it with the one needed for a good runningwalk or fox trot.]

To teach this exercise you should try to use a snaffle bit, if at all possible. It *will not work* in a gag bit of any kind, and is very difficult in a curb. Ride the horse in a slow walk, in a large circle. Take gentle contact with his mouth, encouraging him to relax on a relatively light rein. Very gently, pull to the side and down with the outside (toward the rail) rein, then alternate this with another light twitch down and to the side with the inside rein. Keep your hands low and separate as you give these cues. Allow the rein to slip through your fingers, remaining slack, as soon as he responds by lowering his head, then repeat. Practice this exercise until the horse will stretch his head and neck down and forward with a light series of alternating twitches on the reins. *This will take time.* A horse that has been taught to carry a high head, been "set up" in a biting rig, or otherwise convinced that he must never lower his head will have trouble responding to this new exercise. Be patient and persistent, and eventually your horse will learn to reach forward, stretching his neck and back muscles. It may take weeks or even months to teach this exercise, depending on the previous training and conformation of the horse.

When your horse responds instantly to the cue to reach down and forward into a loose rein, begin to teach him to work through his back into the bit. With his head in its lowest position, take light contact with his mouth-about the weight of a small plum in each hand. Push the horse forward with intermittent strong leg pressure, *keeping his head low* by separating your hands at the first sign of his neck or head rising. His nose should start to come in just a bit from the horizontal, his neck will arch very slightly and the base of his neck, just before the withers, will begin to rise. Ride for a few steps in this position, then reduce rein contact and allow the horse to relax with a low head. Repeat, gradually building up to riding "deep" with light contact through the snaffle bit for longer and longer periods. Push the horse on for some speed in the ordinary walk, then move into a flatwalk in this position. At the first sign of a pace, reduce speed and lower and separate your hands a bit more, while driving the horse strongly forward with your legs. *This part of the exercise will not work unless the horse is pushed forward into the action of the bit with strong use of your legs.* If your horse starts to rush forward from leg pressure, use light, intermittent squeezes and releases on the reins to slow him. *Never* use a hard, steady pull to slow him. You will have much better results if you use "half-halts" to ask for slower speed. After some practice, you should start to feel a slight fullness in the horse's back

muscles under your seat as he works in this part of the exercise. He is gaining strength in his back, and beginning to eliminate the hollow that is a main part of the pace position. Work for at least half of each session in this position, alternating it with periods of a free dog walk on a loose rein.

Bending:

Pacing horses are very stiff laterally, and many are not able to go in a large circle with an even bend in their bodies from head to tail. The ground exercises in neck bending can begin to overcome this problem, but more difficult mounted work is needed as well. You should start these exercises in an ordinary walk, and later perfect them in the flatwalk, after your horse has learned to semi-collect in that gait.

Riding curves: To teach a horse to bend in an even curve, start by teaching him to bend into the corners of your arena. Ride forward at an energetic walk, with his head at a medium height, on contact with the snaffle bit, in an energetic walk. As you reach the curve of the arena, push him into it, so that he must conform his body to the corner of the arena. To do this:

1. Push him toward the rail with pressure at the girth from your inside leg.
2. Lower your inside hand while taking just a bit stronger contact with the bit.
3. Yield your outside hand forward slightly.
4. Place your outside leg just behind the girth with very light pressure.

This will channel his body into a shallow curve. Practice in both directions, at all four corners of your arena, until the horse can easily move into the curve, making a shallow "C" with his body. Over time, you will be able to push him deeper into the curve, increasing the bend in his body.

Riding circles: Once the horse has developed the flexibility to do good, deep curves, you can then teach him to work good circles. Remember, a circle is round, not egg-shaped or amoeba-shaped! To help you judge how well you are doing with them, place a cone at the center point and ride on freshly raked sand or dirt so you can see your tracks. You may be surprised at how hard it can be to ride a round circle.

To ride a circle, with your horse in an energetic walk, on contact with the snaffle, move forward with your:

1. Inside hand slightly lower than your outside
2. Inside leg against the horse's side at the girth with just enough pressure to keep him moving forward
3. Outside leg against his side just back of the girth with a slightly

- stronger pressure, asking him to bend his body
4. Outside rein at normal height, with slightly less pressure than the inside rein

Practice riding large circles, at least 60 ft in diameter, at first. Then gradually reduce the size, as the horse learns to bend on the curve of the circle. Eventually you can put two circles together and ride figure 8's, increasing the horse's flexibility training. Do not try to do small circles at speed-that will often encourage a pace as the horse feels threatened by them and tenses even more in anticipation of being forced to try to bend more than is comfortable.

Lateral flexion: Although these are usually thought of as "dressage" exercises and may be intimidating, they are basic gymnastic exercises invented to improve the lateral bending of any horse. They are especially useful for pacing horses because they work on the back and neck muscles that are the culprits in making a horse travel "hollow" in the gait. You don't need to be a fanatic about correct riding to benefit from these exercises.

Shoulder-fore: This is a beginning exercise in which the horse travels forward in a straight line with his head, neck and body bent slightly to the inside of the ring, while his haunches move parallel to the rail. It works to stretch and strengthen the muscles of the back and the hindquarters, as well as working to improve flexibility in the shoulders. To begin this exercise, ride a 30-foot circle, in one corner of your arena. As you come out of the circle next to the rail, ask the horse to move forward while keeping his head, neck and shoulders bent in the curve of the circle. He should walk forward parallel to the rail, while looking toward the center of the arena.

To do this exercise use:

1. The inside rein to bring the horse's nose to the inside of the curve, so that you can just see his inside eye.
2. The outside rein with light contact against his neck, to keep him from bending his neck too far to the inside.
3. The inside leg at the girth, pushing toward the outside shoulder to move him forward.
4. The outside leg just behind the girth, very lightly, to prevent the hindquarters from moving over to the outside.

Do not be too worried if you are not doing this exercise perfectly. It can work to loosen up a pacey horse even if it is not being done to good dressage standards.

Haunches-in: This is actually a reverse version of the shoulder-fore. In it you keep the shoulder parallel to the ring and move the hindquarters toward the center. This bends and stretches the rear portion of the horse's body. To begin

this exercise, with the horse standing still, use your outside leg as it hangs in the stirrup to put pressure on his side, to push his hindquarters over one step. [You may need to teach this from the ground at first, using your hand to push on the horse's side at the girth, while tipping his nose toward you, teaching the turn on the forehand. When he has learned that, you can repeat the same cues from the saddle and he will yield his hindquarters away from leg pressure.] Ride the horse parallel to the rail, keeping his head and neck straight, not allowing him to turn his nose toward the rail. Keep his hindquarters yielded to the inside of the arena about six inches, so that the outside hind hoof falls into the track of the inside front. To do this:

1. Push with your outside leg just behind the girth, straight into the horse's side.
2. Take slightly stronger contact with your inside rein, hand held at or below the withers.
3. Lighten the contact with your outside rein so that the horse can keep his neck straight.
4. Push lightly with your inside leg, just where it falls in the stirrup, to keep the horse moving forward.

Do not ask the horse to move in this position for more than a few steps at a time, and avoid doing the exercise around the curves of the ring. Practice in both directions, so that the horse learns to bend both sides of his body.

In time, you can increase the number of steps you take in the haunches-in until your horse goes in the "two-track" exercise for the entire length of your arena. You can then start alternating it with the shoulder-fore, bending the horse first in one part of his back, then in the other. After several months of practice, when the horse is becoming increasingly flexible, you can try to ride the haunches-in through the curves of your arena. This is not necessary, but it does increase the bend in his body and is an indication of good flexibility.

Semi-collection and "working through":

Once your horse has achieved some lateral flexibility and learned to reach forward and down into the bit, and then maintain the stretch through his body with a slightly higher head and neck, he is ready to learn to work with a rounder body position or "frame", eliminating the pace position entirely. This is the final phase of the body use you began to develop with the neck stretching exercise. This is *not* false collection by "head set" as you may know it. Instead, it involves teaching the horse to develop energy in his hindquarters and channel it through his body, while taking advantage of the increased elasticity he has developed in his back muscles through the flexibility and stretching exercises.

For a typical gaited horse, the best way to work into this new position is from

an energetic walk of flatwalk. Ride at the ordinary walk, with the horse in the neck-stretched position, keeping your hands low and separate. Drive the horse forward with strong, repeated squeezes from both legs, keeping his head low. Increase his speed until he is moving with energy in the flatwalk. *Lower and separate your hands at the first sign of a pace.* Establish a consistent flatwalk, then gradually bring his nose toward vertical with light, intermittent squeezes on the reins, allowing his head and neck to rise a few inches, keeping up his forward momentum, *hands low*. Again, at the first hint of a pace, slow to an ordinary walk, lower his head and neck, and push him into the bit with leg pressure. Do not try to pull the horse's head into a more vertical position with strong rein pressure, and do not try to set his head with your hands. Ask him with light vibrations on the reins to relax and give his jaw, while moving forward energetically. He should begin to flex his neck just at the poll, with a slight bulge in the top of his neck muscles about six inches behind his ears. Find the speed at which he is willing to move out well while staying in a four beat walk, and keep him there, asking him to keep his head and neck just slightly higher than he did when you were practicing the neck stretching exercises.

Ride the horse in this position for several strides, then return to the neck stretched position to relieve any tension in his neck. Repeat, alternating between several strides with his neck up and nose toward vertical and the neck-stretched position, being sure to drive him forward with strong leg pressure when he uses the higher head position. Do *not* try to raise the horse's head by lifting your hands. Push with your legs and *allow* it to rise as he works forward from his hindquarters in response to your leg cues. If you do this correctly, and do not rush the process, the horse will naturally raise his head and neck while at the same time slightly lowering his hindquarters and very gently rounding his back. At first the new body position will be virtually imperceptible, but soon you should be able to feel fullness in the horse's back muscles under your seat. He is losing the hollow that causes the pace and allowing the energy from his hindquarters to come "through" his back.

Continue riding in this semi-collected position, gradually increasing speed in the flatwalk until the horse is moving out well, head in slightly elevated position, neck a continuous curve from poll to withers (no dip in front of the withers) back full under your seat, and hindquarters pushing efficiently. Practice maintaining this position for increasing distances in the flatwalk. Then speed him on into a runningwalk, keeping the horse slightly rounded, and preventing him from breaking into a pace by regulating his speed and "frame". If he starts to pace at the faster speed, slow him a bit, lower his head and separate your hands, and push him on with the lower head position. This will re-establish the connection between poll and tail, and stretch his back muscles, eliminating the hollow that causes the pace.

Why only semi-collection? Because if you go too far in collecting a gaited

horse you will lose the gait and convert him to a hard trotting horse. This happens because to continue in gait a horse requires a bit of looseness in the back that disappears with true collection. Think of collection as a progressive continuum, shown in varying degrees by horses in various gaits. From the pacing horse, with a totally concave or "hollow" back, to a horse in a piaffe, which is totally round and at the peak of collection, different gaits and movements require different degrees of collection. Some gaits are actually best done with the back in a neutral (not rounded, not hollow) position. The runningwalk and foxtrot are in this category, with the foxtrot being just a bit more collected in position than the runningwalk. Teach your horse semi-collection to convert the pace to one of these gaits, but avoid using so much that you turn him into a hard trotter.

Aids in conditioning the horse:

In addition to these exercises and riding techniques, there are some other things that can be done to help a horse develop the strength to hold his body in a non-pacing position. Although some of these have been used for years by those who also use shoeing techniques and devices to eliminate the pace, they are valid, non-artificial training aids.

Poles: Work over poles interferes with the flight path of a horse's hooves and can quickly convince him to stop pacing as he hits himself on them if he tries to do that gait. However, it also develops the muscles in the back and hindquarters and encourages the horse to hold his body in a less hollow position. Although gaited horses are likely to trot over poles, this exercise will not turn them into hard trotters. It does work to break up the pace, however, even in horses that are "wired" to do that gait.

The best way to work with poles is to spread out several series of two or three at intervals around the arena. Start with low poles, about 4 inches high, spaced about three feet apart. Encourage the horse to stretch his neck forward and down so that he can see the obstacles, then ride him over them at a walk. Gradually increase speed, until the horse starts to pace on open ground, then ride over the poles again. He will probably trot over them after hitting his hooves a few times, then return to the pace in between groups of poles. If he paces over the poles as well, you need higher obstacles-use railroad ties or regular cavallettis set at about 8 inches off the ground. Whatever you use, it must make the horse pick up his feet. In time, with practice, the horse will stop pacing over poles. It is then up to you to ask him to continue not-pacing without them, using the body repositioning techniques mentioned earlier.

Hills: Work up hills has also been a traditional method of getting rid of a pace. It works because for a horse to climb a hill he must balance to the rear and slightly round his back, getting rid of the hollow pace position. Most

horse that pace on flat ground will gait well up hill. Take advantage of this by asking for only a slow walk on the flat and pushing for speed in gait up hills. Not only will you be accustoming the horse to using the gait you want, you will be conditioning his back and body so that he can hold the semi-collected position more easily on flat ground.

Avoid asking for speed going down hills, as that will throw the horse onto his shoulders, hollow his back, and encourage the pace.

Footing: Many horses lose the pace when they are ridden in deep or soft footing. Mud, sand, snow, plowed ground or deep grass can work to make a horse stop pacing because the surface delays the timing of his hooves and forces him into another gait. Soft footing also helps strengthen the muscles in a horse's legs, shoulders, hindquarters and back, since it is hard work to move over that type of ground. This increased strength will help him hold his body in a rounder, non-pacing position on a firmer surface. If it is not overdone, work in deep footing will help in curing the pace, but too much can cause damage to his muscles and tendons. Don't spend more than 5 minutes, every few days, riding over this type of ground.

The pace can be cured. If you condition a horse's body, train him to use it in a semi-collected position, and work with his mind by constantly discouraging the pace while encouraging his gait, he will eventually stop pacing under saddle. With time, he will also stop using the pace when he is not being ridden. His body will have been reeducated and repositioned away from the unwanted gait. You don't really need a trunk full of devices or a farrier who specializes in gait problems to train a horse to stop pacing and start working in gait.